

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
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09/430,642 10/29/99 GELLER

B SAR-12428

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WILLIAM J BURKE  
SARNOFF CORPORATION  
C/O PATENT OPERATIONS  
CN 5300  
PRINCETON NJ 08543-5300

EXAMINER

JONES, S

ART UNIT

PAPER NUMBER

2817

DATE MAILED:

07/06/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

|                              |                  |               |
|------------------------------|------------------|---------------|
| <b>Office Action Summary</b> | Application No.  | Applicant(s)  |
|                              | 09/430,642       | GELLER ET AL. |
|                              | Examiner         | Art Unit      |
|                              | Stephen E. Jones | 2817          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 04 June 2001.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-3 and 6-10 is/are pending in the application.

4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 6-10 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claims 1-3 and 6-10 are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

15) Notice of References Cited (PTO-892)

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_

18) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_

19) Notice of Informal Patent Application (PTO-152)

20) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 1-3 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

***Claim Objections***

2. Claims 9 and 10 are objected to because of the following informalities:

Regarding claim 9 (line 2), it appears that the term "suibstrate" should read as -- substrate--.

Also regarding Claim 9 (line 5), it appears that the term "ans" should read as -- and--.

Regarding Claim 10 (line 2), it appears that the phrase "metal support plate" should read as --metal support substrate-- to be consistent with the previously cited "metal support substrate" in Claim 9.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 9, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Piloto et al. of record.

Piloto et al. (Fig. 7) discloses a waveguide filter including: a culmination of slots (68) which form conductive walls sandwiched in a dielectric substrate (46) and protruding through the substrate; the slots form the boundaries of resonators (42) which are coupled together by iris sections (i.e. apertures) (67); metal layers are disposed on the top and bottom of the filter (see Col. 5, lines 65-67); the bottom metal layer would inherently provide support for the structure, especially since the bottom metal layer has additional layers on top of it; the waveguide filter structure is rectangular (Claim 6).

Piloto et al. (Fig. 4 and Col. 8, lines 24-29) further teaches that additional dielectric layers cover the top metal layer (Claim 9). Piloto also teaches that the dielectric constant of the dielectric can be adjusted which would inherently vary the operating frequencies of the structure (see Col. 4, lines 21-25) (Claim 8).

Regarding Claim 9, note that it is only the final product which is patentable. Therefore, in the Piloto et al. structure the extra (i.e. more than the presently claimed invention) dielectric layers do not preclude the Piloto et al. rejection of the presently claimed invention since the "extra" layers in the Piloto et al. structure form one thick layer in the final product form.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piloto et al. (of record).

Piloto et al. discloses a waveguide filter as described above. However, Piloto et al. does not disclose that the bottom metal layer is copper clad molybdenum.

It would have been considered obvious to one of ordinary skill in the art to have substituted a well-known copper clad molybdenum material in place of the bottom layer of conductive material in the Piloto et al. filter because it would have been a mere substitution of art-recognized equivalent conductive materials.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piloto et al. (of record) in view of Kubota et al. (of record).

Piloto et al. discloses a waveguide filter as discussed above. Piloto et al. also discloses the filter having input/outputs (63) coupled to stripline electrodes (56 and 58) (Col. 7, line 10), and the input/outputs go through openings in the dielectric. However,

Piloto et al. does not disclose a probe and connector which couple to the striplines or that the stripline is on the surface of the second green tape stack.

Kubota et al. (Fig. 7) discloses a straight connector and probe (i.e. e-probe) which couples to a resonant cavity.

It would have been obvious to one of ordinary skill in the art to have substituted a functionally equivalent probe and connector such as taught by Kubota et al. in place of the generic input/output coupling coupled to the stripline in the Piloto et al. device, because it would have provided a well-known input/output coupling and connection means for the waveguide filter.

Also it would have been considered obvious to one of ordinary skill in the art to have modified the filter as taught by the combination of Piloto et al. and Kubota et al. to have the stripline electrodes on the surface layer rather than an interior layer, because it would have been a mere art-recognized functionally equivalent location for the stripline electrodes when used for input and output in a filter.

#### ***Response to Arguments***

9. Applicant's arguments filed 6/4/01 have been fully considered but they are not persuasive.

Applicant argues that Piloto et al. does not disclose a metal support substrate that adds mechanical strength to the structure and that the metal support substrate prevents shrinkage of the green tape stacks.

Contrary to Applicant's arguments, the bottom metal layer would inherently provide some support for the structure, especially since the bottom metal layer has the

additional layers on top of it (i.e. anything that has an object on it can be said to function as a "support"). Furthermore, applicant's argument that the metal support substrate "adds mechanical strength" is not commensurate with what is claimed. Applicant merely claims a "metal support substrate" and not that it "adds mechanical strength" to the waveguide structure.

Also, applicant's argument regarding shrinkage is not relevant since only the final product is patentable in an apparatus claim.

**10. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 703-305-

0390. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 703-308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0142 for regular communications and 703-305-0142 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817

sej  
July 5, 2001